

In the Claims

Please replace all prior versions, and listings, of claims in the application with the following list of claims, in which insertions are indicated by underlining and deletions are indicated by strikeouts or double bracketing.

1.-17. (Canceled)

18. (Previously presented) An immunoglobulin or a fragment thereof, that specifically binds an antigen of interest, wherein said immunoglobulin or said fragment thereof comprises a variable region of a heavy polypeptide chain said variable region being devoid of normal light chain interaction sites.

19. (Previously presented) An immunoglobulin or a fragment thereof, that specifically binds an antigen of interest, wherein said immunoglobulin or said fragment thereof comprises at least part of the variable region of a heavy polypeptide chain said variable region being devoid of normal light chain interaction sites and wherein the immunoglobulin is a heavy-chain immunoglobulin.

20. (Previously presented) A fragment of an immunoglobulin according to claim 18, which is the variable region of the heavy chain of said immunoglobulin.

21. (Previously presented) A fragment of an immunoglobulin according to claim 19, which is the variable region of the heavy chain of said immunoglobulin.

22. (Currently amended) An immunoglobulin or a fragment thereof according to claim 19, which has a constant region which is devoid of a CH1 domain.

23. (Withdrawn) A fragment of an immunoglobulin according to claim 18 which is combined with a fragment of a four-chain immunoglobulin.

24. (Withdrawn) A fragment of an immunoglobulin according to claim 19, which is combined with a fragment of a four-chain immunoglobulin.
25. (Previously presented) A fragment of an immunoglobulin according to claim 18, which is expressed in a prokaryotic or in a eukaryotic host cell.
26. (Previously presented) A fragment of an immunoglobulin according to claim 19, which is expressed in a prokaryotic or in a eukaryotic host cell.
27. (Previously presented) A fragment of an immunoglobulin according to claim 21, which is expressed in a prokaryotic or in a eukaryotic host cell.
28. (Withdrawn) A fragment of an immunoglobulin according to claim 19, which comprises at least 10 amino acid residues of the variable region of a heavy polypeptide chain and comprises the residue corresponding to position 45 in the immunoglobulin said residue at position 45 being a charged amino acid residue or a cysteine residue.
29. (Withdrawn) A fragment of an immunoglobulin according to claim 28, which is combined with a fragment of a four-chain immunoglobulin.
30. (Withdrawn) A modified 4-chain immunoglobulin or a fragment thereof comprising a variable VH region which is modified such that the VH region has been partially replaced by specific sequences or amino acid residues of an immunoglobulin according to claim 19.
31. (Previously presented) The immunoglobulin or a fragment thereof according to claim 18 or 19, wherein the immunoglobulin or fragment is suitable for use in in vitro diagnosis.
32. (Previously presented) The immunoglobulin or a fragment thereof according to claim 18 or 19, wherein the immunoglobulin or fragment is suitable for use in in vivo diagnosis.

33. (Previously presented) The immunoglobulin or a fragment thereof according to claim 18 or 19, which is labeled with a detectable label.

34. (Withdrawn) The immunoglobulin or a fragment thereof according to claim 33, wherein the detectable label is an imaging agent.

35. (Previously presented) The immunoglobulin or a fragment thereof according to claim 33, wherein the detectable label is selected from the group consisting of a radioisotope, a chemical marker, an enzymatic marker, or a chemiluminescent marker.

36. (Withdrawn) An immunoglobulin or a fragment thereof according to claim 18 or 19, which is directed against an immunoglobulin idiotype.

37.-50. (Canceled)

51. (Previously presented) A composition comprising an immunoglobulin or a fragment thereof that specifically binds to an antigen of interest, wherein said immunoglobulin comprises a variable region of a heavy polypeptide chain, said variable region being devoid of normal light chain interaction sites.

52. (Previously presented) A composition comprising an immunoglobulin or a fragment thereof that specifically binds to an antigen of interest, wherein said immunoglobulin comprises at least part of the variable region of a heavy polypeptide chain, said variable region being devoid of normal light chain interaction sites and wherein the immunoglobulin is a heavy-chain immunoglobulin.

53. (Previously presented) The composition according to claim 51 or 52, wherein the immunoglobulin or fragment specifically binds a protein, hapten, carbohydrate or nucleic acid.

54. (Previously presented) The composition according to claim 51 or 52, wherein the immunoglobulin or fragment specifically binds a protein present on tumor cells.

55. (Withdrawn) The composition according to claim 51 or 52, wherein the immunoglobulin or fragment thereof is combined with a toxin, enzyme, drug, hormone, or cytokine.

56. (Withdrawn) The composition according to claim 54, wherein the toxin is mistletoe lectin toxin.

57. (Withdrawn) The composition according to claim 51 or 52, wherein the immunoglobulin or fragment thereof is bifunctional or multifunctional.

58. (Withdrawn) The composition according to claims 51 or 52, wherein the immunoglobulin or fragment thereof is heterospecific.

59. (Withdrawn) The composition according to claim 58, wherein the immunoglobulin or fragment thereof is capable of targeting drugs, hormones or cytokines to cells.

60.-63. (Canceled)

64. (New) A method for synthesizing an immunoglobulin or a fragment thereof according to any of claims 18-22 comprising (a) selecting a variable region having a determined antigen specificity; and (b) attaching the variable region of step (a) to a constant region.

65. (New) A method according to claim 64, wherein attaching of the variable region to the constant region in step (b) is effected by expressing the immunoglobulin or a fragment thereof as a fusion polypeptide.

66. (New) A nucleic acid molecule encoding an immunoglobulin or a fragment thereof according to any of claims 18-22.

67. (New) A vector comprising nucleic acid according to claim 66.

68. (New) A host cell transfected with a vector according to claim 67.
69. (New) A method of treating and/or preventing disease in a patient, wherein the method comprises administering to the patient a therapeutically effective amount of an immunoglobulin or a fragment thereof according to any of claims 18-22.